

DuPont™ Pyralux® AG

All-Polyimide Double-Sided Copper-Clad Laminate

Flexible Circuit Materials

Product Description

DuPont™ Pyralux® AG is a Double-sided Copper-clad Laminate featuring an adhesive-less, all-polyimide dielectric layer. This material system is ideal for low layer count flexible printed circuits that require advanced material performance, excellent temperature resistance, and high reliability. Offered in a variety of both dielectric and conductor thickness, DuPont™ Pyralux® AG provides designers, fabricators, and assemblers a versatile option for a wide variety of flexible circuit constructions.

Key Features and Benefits

- Strong dielectric to Cu bond strength affords high reliability
- Excellent thermal resistance from all-polyimide dielectric
- Minimal variance in dielectric thickness for consistent circuitry performance
- UL 94V-0, UL File E161336
- Certified to IPC 4204/11
- RoHS Compliant

Packaging

DuPont™ Pyralux® AG Double-side Clad is supplied in roll form as 100 linear meter (328 ft) rolls in widths of either 250 mm (9.8 in) or 500 mm (19.7 in). In sheet form, standard dimensions of 24 x 18 in (610 x 457 mm) are available, with other sizes available upon request.

Storage and Warranty

DuPont™ Pyralux® AG Double-side Clad should be stored in original packaging at temperatures of 4 - 29 °C (40 - 85 °F) and below 70% relative humidity. The product should not be frozen and should be kept dry, clean, and well-protected. Subject to compliance with the foregoing handling and storage recommendations, DuPont's warranties shall remain in effect for the period provided in the DuPont Standard Conditions of Sale.

Processing

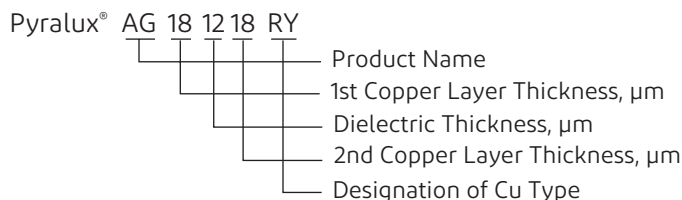
DuPont™ Pyralux® AG Double-side Clad is fully compatible with all conventional flexible circuit fabrication processes, including oxide treatment and wet chemical plated-through-hole de-smearing. Fabricated circuits can be cover coated and laminated together to form multilayers or bonded to heat sinks using polyimide, acrylic, or epoxy adhesives. Pyralux® AG processing guide available from your DuPont sales representative.

Table 1 - Standard Pyralux® AG Double-Side Clad Offerings

Product Code	Copper Thickness µm (oz/ft²) & Type	Dielectric Thickness µm (mil)
AG121212RY	12 (0.33) RA	12 (0.5)
AG122512RY	12 (0.33) RA	25 (1.0)
AG125012EM	12 (0.33) ED	50 (2.0)
AG181218RY	18 (0.5) RA	12 (0.5)
AG182518RY	18 (0.5) RA	25 (1.0)
AG185018RY	18 (0.5) RA	50 (2.0)
AG355035EZ	35 (1.0) ED	50 (2.0)

*At the end of the product code, "R" designates rolled-annealed copper (e.g., AG181218RY) and "E" designates electro-deposited copper (e.g., AG125012EM).

Product Code Key



Safe Handling

Prior to handling, DuPont recommends referencing the Pyralux® Safe Handling Guide available at pyralux.dupont.com.

Quality and Traceability

DuPont™ Pyralux® AG Double-side Clad is manufactured under a certified ISO9001:2015 Quality Management System facility. Complete material and manufacturing records, which include archive samples of finished product, are maintained by DuPont. Each manufactured lot is identified for reference traceability. The packaging label serves as the primary tracking mechanism in the event of customer inquiry and includes the product name, batch number, size, and quantity.

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Product Performance

Table 2 - DuPont™ Pyralux® AG Double-sided Copper-clad Laminate Properties

Property	AG182518RY Typical Value	Test Method
Dielectric Constant (Dk), 10 GHz	3.2	ASTM D2520
Loss Tangent (Df), 10 GHz	0.007	ASTM D2520
Peel Strength (Adhesion to Copper) As Received, N/mm (lb/in) After Solder, N/mm (lb/in)	> 1.0 (6) > 1.0 (6)	IPC-TM-650 2.4.9
Dimensional Stability (MD/TD) After Etching, % After Thermal (150 °C for 30 min), %	± 0.07 % ± 0.07 %	IPC-TM-650 2.2.4
Coefficient of Thermal Expansion XY-Axis, ppm/°C	17 - 20	DuPont Method, TMA
Solder Float, 288 °C for 10 s	Pass	IPC-TM-650 2.4.13
Moisture Absorption, %	0.8	IPC-TM-650 2.6.2
Dielectric Strength, V/μm	275 - 310	ASTM D149
Tensile Modulus, GPa	4.8	IPC-TM-650 2.4.19
Tensile Strength, MPa	265	IPC-TM-650 2.4.19
Elongation, %	60	IPC-TM-650 2.4.19
Flexural Endurance, cycles	> 1,500	JIS C6471 (MIT)
Glass Transition Temperature (Tg), °C	230	DuPont Method, TMA

Data within this table are typical values for the listed product. Performance can vary depending on construction and processing.



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For more information on Pyralux® AG Double-Sided Clad or other DuPont products, please visit our website.

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CAUTION: Do not use in medical applications involving permanent implantation in the human body. For other medical applications, see "DuPont Medical Caution Statement," H-50102-5 and "DuPont Policy Regarding Medical Applications" H-50103-5.

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